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ABSTRACT

Research on the effects of nonmaternal care on preschool children and writings of childrearing authorities on this topic in the popular press indicate that: (1) high quality nonmaternal care does not appear to have adverse effects on the young child's maternal attachment, intellectual development, or social-emotional behavior; (2) child-care books and magazine articles appearing during the last 20 years have tended to present a more negative veiw of nonmaternal care; and (3) a shift between the 1960's and 1970's has occurred in the direction of a more favorable attitude toward working mothers and nonmaternal care. (Author)

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Effects of Nonmaternal Care on Children: Research Evidence and Popular Views

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Abstract

Research on the effects of nonmaternal care on preschool children is reviewed. Writings of childrearing authorities on this topic in the popular press also are examined. The available data indicate that high quality nonmaternal care does not appear to have adverse effects on the young child's maternal attachment, intellectual development, or social-emotional behavior. Child-care books and magazine articles appearing during the last 20 years have tended to present a more negative view of nonmaternal care. However, a shift between the 1960's and 1970's has occurred in the direction of a more favorable attitude toward working mothers and nonmaternal care.

Effects of Nonmaternal Care on Children: Research Evidence and Popular Views

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During the last 20 years, an ever-increasing percentage of mothers has entered the labor force. The proportion of mothers of school age children who are employed has risen from 34.7% in 1955 to 52.4% in 1975. Similarly, the proportion of working mothers of preschool children has increased from 16.2% to 36.6% over the same period of time (United States Bureau of the Census, 1975). This movement of mothers into the labor force inevitably has increased the demand for nonmaternal care services, particularly for the preschool child whose mother is employed full-time.

The growing trend toward placing children in substitute care arrangements has raised serious questions concerning the effects of nonmaternal care on young children. The traditional belief in our society, held by many professional psychologists, is that women must stay home with their children, particularly in the early years, in order to be good mothers (see Howrigan, Note 1; Russo, 1976). This belief is based in part on results of studies of institutionalized children indicating that long-term separation of the child from the mother during the preschool years of life may have detrimental effects on the child's subsequent intellectual, social, and emotional development (see reviews by Schwarz, Note 2; Yarrow, 1964). Others, however, have stressed the differ-

ences between residential care and the briefer, repeated separations characteristic of the nonmaternal care experienced by children of working mothers (e.g., Heinicke, 1956; Maccoby, 1958; Swift, 1964).

A number of recent reviews (e.g., Etaugh, 1974; Hoffman, 1974) indicate that maternal employment per se cannot be said to be harmful to the child. Rather, the effects of such employment appear to depend upon a number of mediating conditions such as the age and sex of the child, socioeconomic status, ethnic and racial background, intactness of family, the attitudes of the working mothers (and fathers), various characteristics of maternal employment (e.g., full-time versus part-time, regular versus sporadic, duration of employment), and the kinds of child care provisions that are made.

The present review will examine the effects of various nonmaternal child-care arrangements on children. The paper will focus on the effects of all-day nonmaternal care on infants and preschoolers because of the concern generated by the increased employment among mothers of children in this age group (Hoffman, 1974).

Following an examination of the research literature dealing with the effects of nonmaternal care, the paper will turn to the treatment of this issue in the popular press. In recent years, parents have turned increasingly to child-care books for information about child development (Clarke-Stewart, 1978). It therefore is of interest to examine the advice offered by child-rearing experts in magazine articles and child care books on the topic of nonmaternal care.

NONMATERNAL CARE: REVIEW OF THE RESEARCH

Nonmaternal care arrangements can take various forms. The most comprehensive survey to date (Low & Spindler, 1968) found that 47.1% of preschoolers with working mothers were cared for in their own homes, either by the father (14.4%), other relative (17.5%), or nonrelative (15.3%). Child care was provided in someone else's home for another 30.7% of the children surveyed. About half of these children (14.9%) were cared for by a relative, and half (15.8%)by a nonrelative. (The latter is referred to as "family day care" when six or more children are involved). Only 5.6% were cared for in group day-care centers. Another 15% were looked after by the mother while she worked (for example, in a family business or farm), while 1.5% cared for themselves.

Problems in Evaluating Effects of Nonmaternal Care

Ricciuti (Note 3) has identified some important methodological problems which need to be considered in evaluating the effects of various child-care arrangements. These include specifying and studying the effects of such features as: 1) caretaker/child ratios at different ages; 2) stability and continuity of caregivers; 3) staff (or parent) qualifications; 4) nature of the child's daily experience; 5) provision of adequate conditions of nutrition and health; 6) age of entry into day care; and 7) amount of day-care experience. Clearly, any particular type of child-care arrangement can vary along one or more of these dimensions, making generalizations difficult. Further, since studies of caretaking effects vary in the extent to which they provide information about these

factors, interpretation and comparison of findings often is difficult.

Another major problem, noted both by Ricciuti (Note 3) and Bronfenbrenner (Note 4), is the difficulty of controlling for differences in the backgrounds of those families who either do or do not choose to place their children in various substitute care arrangements.

Still another problem involves interpreting the meaning of a particular frequency or intensity of some behavior. With respect to measures of such dependent variables as attachment, dependency, and aggression, either end of the continuum may be "unhealthy." For example, there can be too little attachment or too much; healthy attachment and anxious attachment. Further, since samples and situations differ, a high level of a behavior in one study can be a moderate level in another.

Another difficulty is that long-term follow-ups of children in different types of care arrangements rarely have been carried out.

Finally, it should be noted that many of the studies reviewed here are evaluations of optimal day care, often day care arranged through a university. The care received in high-quality demonstration projects cannot be assumed to be representative of the care children receive in other day-care situations. As noted earlier, only a small percentage of nonmaternal care occurs in day-care centers, and only a small percentage of these involve the often-studied demonstration programs. Thus, this paper is not

able to evaluate the nonmaternal care actually received by the large majority of preschool children of working mothers.

Keeping these issues in mind, we turn first to an examination of some of the characteristics of different types of nonmaternal child-care settings.

Characteristics of Different Nonmaternal Care Arrangements

Lippman and Grote (Note 5) have noted that few systematic attempts have been made to study the characteristics of various types of day-care situations. As noted above, even within the same type of setting, large differences may exist. For example, Prescott, Jones and Kritchevsky (1967) studies 50 public and private day-care centers in the Los Angeles area, and found great variation with respect to characteristics such as quality of physical space, teaching style, and response. Studies by Prescott (Note 6), Lippmann and Grote (Note 5), Rubenstein and Howes (Note 7) and Rubenstein, Pedersen and Yarrow (1977) in the United States, as well as by Cochran (Note 8) in Sweden, provide evidence of differences among group day-care, family day-care, and home environments. The studies by Prescott, Cochran, and Rubenstein were observational. In Lippman and Grote's study, comparisons between group and family day care were based on questionnaires completed by the caretaker in each situation. (Observations of day-care centers, but not day-care homes, also were made.) The ages of the children in these studies were as follows: Rubenstein et al., 5-6 months; Cochran, 12-18 months; Rubenstein

and Howes, 17-20 months; Prescott, 2-5 years; Lippman and Grote, 4 years.

As noted earlier, a major methodological flaw in research comparing various types of child care is failure to control for differences in family background of the children. The authors of the studies cited above were aware of this problem and attempted with varying degrees of success to deal with it. The least amount of control was exerted in the Prescott study. No significant differences by age or sex were found across types of care. Other variables were not controlled, however. Cochran (Note 8) initially matched day-care and home-reared children by age, sex, number of siblings, housing type and location, and socioeconomic level of parents. More center children had a single parent, however. Four years later, center children were much more likely than family day-care children to have a single parent, to have remained in an apartment and to not have had a second sibling. Cochran handled these differences by means of multiple regression analysis.

Lippman and Grote attempted to match each group day-care child with a family day-care child and full-parental care child with respect to race, number of parents in the home, number of siblings, and mother's education. Matching on sex was not achieved, however. Rubenstein and Howes compared full-term normal white children in day care or home care who were comparable in sex, age, ordinal position, mothers' and fathers' education, and religion. In the study by Rubenstein et al., full-term

normal black infants receiving either maternal or substitute care were matched for sex, age, birth order, parental age and education, socioeconomic status, number who had fathers living in the home, and number of other children present.

With regard to experiential differences existing across settings, both Prescott and Cochran reported that interactions with adults were more frequent and more intense in the homes and family day-care settings than in the centers. This is perhaps not surprising given that child/caregiver ratios usually were higher in centers than in home settings (but not necessarily family day-care settings). Rubenstein et al. found that mothers showed more of the following behaviors than did substitute caregivers: expression of positive affect, social play, social mediation of inanimate objects, and variety of both social and inanimate stimulation. Duration of regular contact between the infant and substitute caregiver was positively related to the substitute's caregiving behavior. Despite the differences between mothers and substitutes, the two groups of infants were comparable on 16 of 17 measures of infant functioning.

Rubenstein and Howes, on the other hand, found no significant differences in the number of interactions initiated by infants or adults in day-care centers and home settings. Moreover, despite the larger child/teacher ratio in the centers (3:1), they found that adult-infant play was higher in day care than at home, with both infants and adults contributing to the higher incidence of play in day care. Goal play occurred more

more frequently in day care than at home. Further, day-care infants shared objects with adults more often than those at home, and adults in day-care responded positively to infant sharing more often than did mothers at home. In addition, mothers and day-care adults initiated verbal exchanges and responded contingently to the infant's talking equally often. Cochran, on the other hand, reported a higher incidence of face-to-face verbalizing in homes and day-care homes than at centers, for children slightly younger than those of Rubenstein and Howes.

The studies by Cochran and Prescott indicate that opportunities for exploration, individual play, and independence may be greater in the home and family day-care situations than in group day care. Further, the Rubenstein et al. findings suggest that mothers may provide a more stimulating and responsive environment for infants than do substitute caregivers.

At the same time, negative sanctions, adult restrictiveness, and reprimands appear to occur more frequently in home settings than in day-care centers (Rubenstein & Howes, Note 7; Cochran, Note 8).

Clearly, home and center environments differ along a number of dimensions. However, as Bronfenbrenner (Note 4) has pointed out, differences in caretaker behaviors or physical settings do not necessarily produce differential effects on children's behaviors. Keeping this in mind, we now review the available data concerning the effects of nonmaternal care on the behavior of preschool children.

Attachment Behavior and Parent-Child Relationships

As noted earlier, research on the effects of institutionalization and prolonged separation of children from their parents (e.g., see review by Bowlby, 1973) led many psychologists to argue that any separation from the mother in the early years may weaken the development of a strong attachment between mother and child, and/or make the child less secure and trusting in the mother.

Several studies of attachment behavior have used the Strange Situation Behavior Instrument developed by Ainsworth (Ainsworth & Wittig, 1969). This is a highly structured series of situations designed to assess various components of attachment behavior in a laboratory setting. Among the variables observed are the child's reactions to: a) a strange situation, with mother present; b) the presence and advances of a stranger with mother either present or absent; and c) the departure of mother and her return.

Attachment Behavior of Children Starting Nonmaternal Care Before the Age of Two Years.

Studies of the attachment behavior of children starting nonmaternal care before age 2 have focused on two types of comparisons: 1) Home-reared children and children experiencing substitute care are compared with respect to their attachment behaviors toward the mother; 2) Attachment reactions to the mother and to the substitute caregiver are compared for children in substitute care.

Attachment to mother: home care vs. substitute care

One of the earliest studies of attachment behavior was carried out by Caldwell, Wright, Honig and Tannenbaum (1970). They examined the child's attachment to the mother in 18 2 1/2-year-old children who had been in a full-time high quality day-care program at Syracuse University for a mean of 18.8 months. Most had been enrolled between the ages of 6 and 15 months. The 23 control children had been home-reared since birth. Assessment of the child's attachment to the mother was based on observations of mother-child interaction and interviews with the mother. No significant differences in attachment behavior were found between the two groups.

Other studies also have failed to find differences in the attachment behaviors of home-reared and day-care children. A study by Ricciuti (1974) examined 10 infants who had been placed in group care between the ages of 2 and 6 months. The infants had been in group care for 8 to 10 months, 6 for the full day and 4 for half the day. The 10 infants in the matched control group had not had previous day-care experience. Reactions to the approach of a stranger after separation from the mother in a relatively unfamiliar setting were compared. Differences between the day-care and home-reared children were not significant. A similar study conducted by Cochran (Note 8) on a much larger sample of children of essentially the same age yielded comparable findings. Cochran's subjects were 120 children, 17-18 months old, of whom half were in all-day center care, about 25 percent

were cared for full- or part-time by a "day mother" while the parents worked, and the remainder were cared for at home by the mother. No significant differences were found in the home and center children to a mother separation exercise conducted in each child's home.

Two recent Canadian studies using the Strange Situation (Doyle, 1975; Doyle & Somers, Note 9) reinforce the conclusion that the child's attachment to its mother is not impaired by substitute caretaking experiences. In the first of these studies, the reactions of 12 children who had attended day care for 7 months were compared with those of 12 matched home-reared controls. The mean age of the subjects was 18.5 months, with an age range of 5-30 months. The two groups were comparable with respect to all attachment behaviors but one: the home-reared children initially looked more at the stranger than the day-care children. In the second study, Doyle and Somers (Note 9) compared three matched groups of 11 children: center children enrolled in all-day care, family day-care children, and home-reared children. The groups were pretested at a mean age of approximately 18.5 months (range=6 to 25 months). The average time in group day care at the time of pretest was 10 months. A posttest was administered 4-5 months later. Again, few significant group differences were found on the 11 attachment variables. Virtually no pretest differences emerged. On the posttest, home-reared children played less, cried more when left alone, and searched more for the mother when she left, than

either the group-care or family-care children. Doyle and Somers interpret these results as indicating that home-reared children were no more or less strongly attached than the other groups but were less accustomed to being left alone by their mothers in an unfamiliar room. These findings are congruent with those reviewed thus far in indicating that nonmaternal care does not produce insecure attachment to the mother.

Another recent study using the Strange Situation procedure (Brookhart & Hock, 1976) compared 15 10-12 month-old infants who had been attending a day-care center at least half-time for 2 months with 18 home-reared control subjects. The children were tested both at home and in the laboratory. No significant effects attributable to type of rearing experience were found. In a related study, Hock (Note 10) used the Strange Situation to assess attachment in 12-month-olds. The study included two samples of working mothers and their infants. These mothers had worked for at least 6 months during the child's first year of life. In one sample, 11 infants were in group day care and 17 were in individual care outside the home. Both groups had experienced only one type of care and no more than two different caretakers. Group-care infants showed more contact-resistance behavior toward the mother than did infants cared for in individual settings. No other attachment variables were related either to type of care or to infant age at the onset of alternate care. In order to study the effects of location of care, Hock examined infants of working mothers cared for individually either outside

the home (N=17) or within the home (N=14). Group-care infants were excluded from this comparison. No attachment differences were found attributable to location of care.

In another recent investigation employing the strange situation procedure, Ragozin (1977) observed 14 day-care and 14 home-reared children ranging in age from 17 to 38 months. Children in both groups were from intact, two-parent families with highly educated mothers. All but one of the day-care children had first entered substitute care by the age of 18 months. Rearing group main effects were found for only 2 out of 14 outcome measures: the day-care group, as compared to the home-reared group, created and maintained distance from the mother at a higher rate, and engaged in less give/take of objects with the stranger.

A longitudinal study designed to assess the effects of day care on children during the first 30 months of life (Kearsley, Zelazo, Kagan & Hartmann, 1975; Kagan, Kearsley & Zelazo, Note 11) used two different measures of attachment: separation protest, and the child's reaction to mother, caregiver, and stranger when bored or mildly apprehensive. Experimental subjects were Chinese and white children from working-and middle-class families who had attended a day-care center at least half-time from 3 1/2 to 30 months of age. The major control group consisted of children reared at home and matched with the day-care group on ethnicity, social class, and sex. The children were assessed every 2 months from 3 1/2 to 13 1/2 months and again at 20 months. Two minutes of isolated separation from the mother constituted the separation

protest measure. No significant differences in protest due to type of rearing were found at any age (Kearsley, et al., 1975; Kagan, et al., Note 11).

Additional evidence that attachment reactions to the mother are not related to the presence of substitute caretakers comes from a study of stranger reactions of 35 American home-reared children and 20 kibbutz-reared Israeli children, all approximately 2 1/2 years old (Maccoby & Feldman, 1972). In the kibbutz, the rearing of children is carried out in communal houses by trained child-care workers rather than by the parents. Generally the same child-care worker (metapelet) remains with a particular group of 4 to 6 children from the ages of 6-9 months to 4-5 years. Both parents spend 2 to 3 hours a day visiting the child (Kohen-Raz, 1968). Compared to the average American nuclear family, the kibbutz is characterized by lesser availability of the mother, a greater number of caretakers, and more frequent changes of the chief caretaker (Maccoby & Feldman, 1972). Despite the differences in child rearing, kibbutz and American 2 1/2-year-olds were found to be highly similar in their attachment reactions to their mothers, and equally likely to show distress over separation, as measured by the Ainsworth Strange Situation procedure.

Similar findings were obtained by Kessel and Singer (Note 12) in their study of disadvantaged South African infants (mean age = 16 months; range = 12-19 months). Children who had experienced group day care for 6 months did not differ from home-

reared controls on any of the Strange Situation measures.

A study by Ramey and Mills (1977) of high-risk infants compared 15 3 1/2- to-9-month-old infants entering day-care before 3 months of age with a comparable sample of home-reared infants. Mother-child interaction in a 25-minute playroom session was observed. Few significant differences were found among the two high-risk groups and a home-reared sample from the general population (7 of 71 variables). Day-care infants vocalized more and interacted more frequently with their mothers than the high-risk home-reared children. Again, early day-care experience did not appear to impair the information of attachment to the mother.

Lippman and Grote (Note 5) used a novel measure of attachment behavior in their study of 198 4-year-olds in one of three care situations: group day-care center, family day-care home, or full parental care. The group-care children were sampled from 25 centers, the family-care children, from 69 licensed day-care homes Children in both nonmaternal care settings had been in full-time day care for at least 9 months, and more than half had entered when they were less than 2 years old. Many group-care children had been in a day-care home prior to entering the center. Children in all three settings were matched on race, mother's education, number of siblings, and number of parents in the home.

The attachment measure consisted of a series of six stories designed to place the child in hypothetical but possible situations. The child was the central character in each story and was placed in settings in which he or she was happy, sick, frustrated,

undecided, sad, or frightened. The child was asked which individuals he or she would want to be present in the situation. According to the authors' interpretation, the greater the number of stories for which a parent choice was given, the greater the attachment to (i.e., dependence on) the parent. For children who had entered day-care before the age of 2, parent choices to at least 5 of the 6 stories were given by 19 percent of the group day-care children and 30 percent of the family day-care children (as compared to 27 percent of the home-reared children). Nearly all of the early-entry group day-care children had family day-care experience prior to entry into a center. Lippman and Grote state that this experience may have "provided the emotional support needed to foster normal independence." (p.126). A different pattern of results was found for children entering nonmaternal care after the age of 2; these will be discussed shortly.

Substitute-care: Attachment to mother vs. substitute caretaker

A longitudinal study by Ricciuti and Poresky (Note 13) examined 10 infants who entered the Cornell Infant Nursery between 2 and 3 1/2 months of age and attended 5 half-days per week. There was one caretaker for every 2 or 3 infants. Between 4 and 12 months of age, assessments were made of the infant's reactions to being left alone by the mother in an unfamiliar playroom either with the infant's familiar caretaker or with a stranger. Starting at about 7 months of age, the age when separation anxiety usually is elicited in this situation, the children began to show distress

reactions to being left with a stranger by either the mother or caregiver. These reactions, which increased in intensity by 12 months of age, were equally strong in the absence of the mother and caregiver. At the same time, infants who were left alone with their regular caretakers showed essentially no distress until 12 months of age, when moderate stress reactions occurred in some children. Overall, these results suggest that the child can form an attachment to a stable substitute caregiver which parallels the development of attachment to the mother.

In a recent study, Fox (1977) used a variation of the Ainsworth Strange Situation in order to examine the development of the kibbutz child's relationships with its different caretakers. The experimental design contained 13 sequential episodes in which the presence and absence of three persons, the mother, metapelet and a stranger, were manipulated. The sample included 122 children, divided into 3 age groups: 8-10 months, 12-15 months, and 21-24 months. With the exception of 12-15-month-old first-borns, the children reacted to the presence and absence of the metapelet as they did to their mother's presence and absence. Protest to the stranger's presence (in the form of increased crying and inhibition of play) was greatest for all groups. First-born children in the 12-15-month-old age range were more likely to protest mother absence and metapelet presence, although protest to being left alone with the metapelet was less than being left with the stranger. These findings suggest that the child's attachment to its mother is not endangered by a multiple caretaking situation.

In the study by Kagan et al. (Note 11) described earlier, 20-month-old home-reared and day-care children were placed in a room with the mother, primary caregiver (or familiar friend for home-reared children) and a stranger. Boredom was promoted by giving the child only a few toys to play with in a 45-minute session. In order to create mild apprehension, the adults suddenly changed their seats at two points during the session. All children spent much more time near mother than near the caregiver (friend) or stranger when they were bored or distressed. No differences were associated with rearing condition.

Similar measures were employed by Farran and Ramey (1977), who examined the attachment behaviors of 23 lower-class children (mean age=19 months; range=9 to 31 months) who had entered full-time day care between the ages of 6 and 12 weeks. Each child was observed for 14 minutes with its mother, teacher, and a stranger in the room. The children directed more attachment behaviors toward their mothers than toward their teachers or the stranger. They spent more time near mother, spent more time both extending and sharing toys, in physical contact, being held, and asking for help when faced with a mildly difficult problem. These results parallel those of Kagan et al. (Note 11) and suggest that the children were attached more intensely to their mothers than to their teachers.

Summary: Attachment before age of 2 years.

Several studies have compared the maternal attachment behaviors of children reared at home and those entering substitute

care before age 2. These studies have found highly similar patterns of attachment behavior in the two groups. A smaller number of studies have compared attachment reactions to the mother and to the substitute caregiver among children experiencing nonmaternal care. These indicate that the child can form an attachment to a stable substitute caregiver which parallels the development of attachment to the mother. At the same time, however, children appear to direct more attachment behaviors toward their mothers than toward their substitute caretakers.

Thus, the bulk of the evidence indicates that nonmaternal care starting in the first 2 years of life does not impair the child's attachment to the mother. Ricciuti (Note 3, p.35) notes that some of these data suggest that "under favorable circumstances such experience may make it somewhat easier for children to adapt comfortably to unfamiliar social situations requiring a willingness to tolerate some distancing from mother."

Attachment Behavior of Children Starting Nonmaternal Care after the Age of Two Years.

As Schwarz (Note 2) has observed, few studies have examined attachment behaviors in children entering day care after 2 years of age, even though this population is larger than that entering before the age of 2.

The first study in this area was done by Blehar(1974), who compared full-time group day-care children and home-reared children on the Strange Situation procedure. The subjects were 40 middle-class children from two-parent homes. Ten of the day-care group averaged 30 months of age at the time of assessment

and had been in day care for a mean of 4.6 months. Ten other day-care children were tested at 40 months of age, and had been in day care for 4.8 months. Two groups of home-reared controls of comparable ages were employed.

Day-care children of both ages interacted less with their mothers across a distance before separation than did home-reared children. During separations, they cried more and showed more oral behavior and avoidance of the stranger. Upon reunion with the mother, they showed more avoidant and resistant behaviors. Age differences also were found. In the day-care group, older children showed more intense attachment behaviors and more distress as a result of separation than did younger children. In the home-reared group, the opposite age trend was found, with younger children displaying more distress and attachment behaviors than older ones. Older day-care children, as compared to their home-reared counterparts, explored less, were more upset by separations and sought more proximity to and contact with mother upon reunion, while also showing resistance and avoidance. Younger day-care children, in comparison to younger home-reared children, sought little proximity to or contact with mother when reunited, but showed increased interaction-and proximity-avoiding tendencies. According to Blehar, these behaviors indicate "anxious ambivalent attachment behavior in the older day-care children and avoidant behavior in younger children" (p.690). These "qualitative disturbances in the mother-child relationship in day-care children...(are) attributed to the disruptive effects of frequent daily separation" (p.683).

A number of writers have commented on the results of Blehar's study, which clearly are discrepant with those reviewed earlier. One point which has been raised (e.g., Schwarz, Note 2; Bronfenbrenner, Note 4) is the possibility that the results may be due to differences in family background and/or the mother-child relationship which existed prior to the day-care experience.

Schwarz notes that another possible reason for Blehar's discrepant findings is that in many of the studies cited previously, the infants were regularly cared for by a substitute caretaker before the age of 7-9 months, the age at which stranger anxiety emerges. Some of the evidence reviewed earlier also suggests that infant day-care subjects may form attachments to their substitute caretakers which are equivalent in many ways to the attachment to the mother (e.g., Fox, 1977; Ricciuti & Poresky, Note 13). A second possibility noted by Schwarz is that it may take longer for a 2-or 3-year-old than for a younger child to form an attachment to a substitute caretaker.

Since the appearance of Blehar's study, additional research has been carried out on children who have entered day care after 2 years of age. Moskowitz and Schwarz (1977) carried out a partial replication of Blehar's study by comparing the Strange Situation behavior of 42-month-old children who either were home-reared or who had been in day-care at least 30 hours per week for an average of 5 months. The 12 children in each group were closely matched for sex, age, and maternal age, and somewhat less adequately matched for birth order, family intactness, and parent education.

Contrary to Blehar's results, day-care children cried significantly less when alone than did home-reared children. There were no differences in resisting or avoiding the stranger. The day-care children looked at the stranger less frequently than the home-care children and, in the last episode, also spoke to the stranger less often. No evidence was found of the anxious-ambivalent attachment reported by Blehar for her 40-month-old subjects.

The differences between the results of these two studies could be due to a number of factors. For one thing Moskowitz and Schwarz controlled potential experimenter bias effects, which Blehar did not. Sample differences constitute another possible explanation. All of Blehar's day-care children were from intact homes and 80% were first born, as compared to 50% from intact homes and 42% first born in the Moskowitz and Schwarz study. Schwarz (Note 2) suggests that greater accessibility of the mother prior to the start of day care among Blehar's subjects may have contributed to their greater distress upon separation.

Cornelius and Denny (1975) compared 32 4-and-5-year-olds who attended full-time group day-care with a comparable group of 32 home-care children on proximity-seeking and attention-seeking measures of dependency. Mean length of enrollment in day care for 4-year-olds was 11.9 months, and for 5-year-olds, 18.6 months. All children were from white, middle-class homes. The children were observed under three conditions. In the first, the child was alone with the mother in an unfamiliar room containing toys.

The next two conditions, which were counterbalanced, involved the addition of an unfamiliar adult male and the addition of an unfamiliar child of the same age. No differences between day-care and home-care children were found, contrary to Blehar's findings, but consistent with the results of Moskowitz and Schwarz.

Portnoy and Simmons (1978) also obtained results that differed from Blehar's. They observed the Strange Situation behaviors of 35 white, middle-class 3 1/2-to-4-year-olds reared in one of three settings: 1) continuous maternal care; 2) maternal care until age 3, then group day care; and 3) family day care at age 1, group day care at age 3. No significant differences in attachment patterns were found for children with different rearing histories. Since the group day-care children in this study had been enrolled almost twice as many months as those in Blehar's sample, Portnoy and Simmons suggest that Blehar's subjects may have been experiencing a transient distress reaction to their new care arrangements.

In still another failure to replicate Blehar's findings, Roopnarine and Lamb (1978) observed 12 white middle-class 3-year-olds in the Strange Situation immediately prior to admission to day care and again three months later. Eleven comparable home-care controls also were observed at the same points in time. Prior to entry in day care, the day-care children were more concerned about the brief separation episodes than the home-care children, as shown by their responses to both separation and reunion. Following three months of day care, these differ-

ences disappeared, with the day-care children protesting less and becoming more sociable than formerly. No resistant or avoidant behavior was observed.

A longitudinal study by Moore (1963, 1964, 1969) also fails to support Blehar's results. English children who had received substitute day care for at least one year before the age of 5 were compared at later ages with children who had been exclusively with their mothers before entering school. The two groups were roughly equated for sex, socioeconomic status, birth order, maternal age, and amount of episodic (i.e., not daily) separation. Information was obtained from interviews with mothers and nursery school staffs, and from tests and observations of the children. At 6 years of age, the children who had been placed in stable substitute care (i.e., regular care by the same person or persons) between the ages of 3 and 4 were slightly more self-assertive than home-reared children and were less demanding of maternal attention than those placed in stable substitute care before the age of 2 (Moore, 1969). This finding contradicts those of Blehar, if one makes the assumption that the different measures of attachment used in the two studies are in fact comparable.

A final study to consider in this section is that of Lippman and Grote (Note 5). They found that the highest proportion of parent-oriented children occurred among the group day-care children who had entered day-care after 2 years of age. Half of this group gave parent choices to at least 5 of the 6 stories in contrast to 19% of the children who entered group day-care before

the age of 2. Roughly 25% of family day-care children exhibited the same degree of parent orientation whether they entered substitute care early or late. Since it is difficult to say whether a high score on this measure reflects healthy or inappropriate attachment, the relationship of these findings to those discussed earlier is unclear.

Summary: Attachment after age 2 years.

Blehar (1974) reported evidence of disturbed mother-child relationships among children who had entered day care after the age of 2. However, four subsequent replication attempts have found few if any differences in the attachment behaviors of children reared at home and those entering substitute care after 2 years of age. Possible reasons for Blehar's discrepant results include differences in the following variables: 1) the organization of the day-care center from which the subjects were drawn (e.g., child-caregiver ratios, handling of daily separations); 2) family background (e.g., intactness of family); 3) subject characteristics (e.g., birth order); and 4) prior mother-child relationships.

It appears reasonable to conclude from the available evidence that nonmaternal care starting after the first 2 years of life does not necessarily impair the child's attachment to the mother. At the same time, it should be recognized that variables such as those mentioned above may influence the child's response to various caretaking arrangements.

Sex by Care Interactions in Attachment Behavior

A number of studies of attachment behavior of children in different care settings have obtained interactions between type

of care and sex of child. Four studies compared the sexes within a particular type of care setting (Brookhart & Hock, 1976; Cornelius & Denney 1975; Portnoy & Simmons, 1978; Hock, Note 10); while two others compared children of the same sex in different care settings (Moore, Note 4; Moskowitz & Schwarz, 1977). These two sets of data unfortunately are not directly comparable.

Examining first those studies which compared the sexes in a given setting, Hock (Note 10) reported that females as compared to males in group care exhibited greater intensities of the following behaviors: contact maintenance and proximity seeking to mother, crying, and proximity avoidance to the stranger. Among children in individual care settings, boys displayed greater intensities of these behaviors than did girls. A similar pattern of results regarding reactions to the stranger was found by Brookhart and Hock (1976). Group-care females displayed more intense contact maintenance and proximity seeking toward the stranger than did group-care males. In the home-reared group, males showed greater intensities of these behaviors than did females.

Contrary to the findings of these two studies, Cornelius and Denney (1975) found that home-care girls stayed close to mother significantly more often than home-care boys, while day-care boys and girls did not differ. Cornelius and Denney suggest that since dependency is one area in which sex differences frequently are found, the results indicate that day-care children may be less sex-typed than home-care children.

To complicate matters, Portnoy and Simmons found a signifi-

cant main effect of sex, but no sex-by-care interaction. Males cried more and showed more resistance and avoidance of the stranger than did female subjects. Females explored more and showed more avoidance of the mother than male subjects.

The two studies in which same-sex children were compared in different care setting are consistent in finding that differences as a function of caretaking experience were more likely to occur for males than for females. In the investigation by Moskowitz and Schwarz (1977), when mother and child first entered the unfamiliar room, home-care males showed the most approach, social vocalization, and visual orientation to the mother, and day-care males showed the least. Females in both care groups received intermediate and similar scores. The greater approach to the mother by home-care males was consistent across all episodes. Day-care males showed the least approach to the stranger, and home-care males, the most approach. Home-care males exhibited the least exploratory manipulation of toys, especially when the stranger was present. Females did not differ in behaviors towards either the mother or the stranger as a function of type of care, nor did they differ in frequency of exploratory manipulation.

Moore (Note 14), in his longitudinal study of English children who had experienced either at least a year of substitute care or continuous home-rearing before the age of 5 years, also found that males were more affected than females by the type of child-care arrangement. With regard to attachment behavior, males at age 7 and 11 who had had substitute caretakers appeared to have

a greater desire for parental approval and attention than home-reared males. Few and inconsistent differences were found for girls as a function of type of caretaking.

To summarize, no consistent pattern of sex differences has emerged from studies of attachment behavior of children in various care settings. Males may be more affected than females by variations in caretaking arrangements, but more data are needed before firm conclusions are warranted.

Intellectual Development of Children in Nonmaternal Care

In considering these data, one must be aware that the research evidence comes primarily from high-quality demonstration programs, rather than the nonmaternal care settings generally found in a particular community (see Ricciuti, Note 3).

The findings reviewed below indicate that good-quality nonmaternal care does not appear to have adverse effects on the intellectual and cognitive functioning of young children. Indeed, under certain conditions, facilitative effects have been found.

Studies of Lower-or Working-Class Children

Caldwell et al. (1970) compared lower-class black and white children receiving stimulating day-care (N=18) with a group of home-reared controls (N=23). The adult-child ratio was about 1:4. The home-reared children showed a decline in developmental quotient (DQ) between the ages of 12 and 30 months, while the day-care group showed a slight increase. By the age of 30 months, the two groups did not differ significantly. Robinson and Robinson (1971) reported similar results for black and white

infants and preschoolers attending a day-care center designed to provide an enriched environment. The adult-child ratio was approximately 1:2. Control home-reared infants (N=8) showed a decline in Bayley Mental Scale scores at 18 months of age, while the day-care group (N=11) maintained its previous level of performance. A 15-point IQ difference existed by 18 months of age. In addition, day-care preschoolers tested between 2 and 4 years of age (N=16) obtained higher scores on the Stanford-Binet than did home-reared control children (N=16). This effect was much greater for culturally deprived black children for whom an IQ difference of 32 points was found.

Fowler (Note 15) carried out a longitudinal research project comparing group-care and home-reared infants matched on the basis of age, sex, IQ, parent education, ethnicity, and occupation, and roughly matched on sibling number, spacing, and parental age. The majority of the sample came from working-class families. Day-care children entered the program between 6-9 months of age, and assessments were made at ages 11, 19, 25, and 32 months. Teacher-child ratios were 1:2.5 for infants, 1:5.6 for toddlers, and 1:9 thereafter. At 11 months, day-care and home-reared groups made equivalent scores on the Griffiths Scales, which measure general IQ as well as language and nonverbal problem-solving. By 25 months of age, the day-care group led the home-reared group in general ability by 10 points and in nonverbal problem solving by 22 points. These differences were due largely to declines of the home-reared group, compared to relative sta-

bility in the day-care group. Fowler identified two dimensions influencing cognitive development. One was length of stay. Day-care children showed immediate gains in problem solving but language gains emerged over a longer period of 21 months. The declines of the home-reared group accumulated over time. Earliness of entry also influenced development. Essentially, earlier-entering children developed more favorably compared to their younger home-reared controls than later-entering children did to their older controls, particularly in the area of language. No sex differences in cognitive development were found. Fowler concluded that children develop better in group care than at home, but only when accompanied by a program of cognitively-oriented parent guidance.

Another study (Lally, Lindstrom, Meyer & Lay, Note 16) compared 19 4-year-old children from lower-class homes who had averaged 36 months in the previously described high-quality full-day-care program at Syracuse University with a group of 4-year-olds entering day-care for the first time. The children were matched on age, sex, race, and parental education and occupation. Both groups of children entered a newly designed day-care program at Syracuse University (adult-child ratio = 1:7) and were tested upon entering the program. Few differences were found between the two groups. The early day-care children were superior on two verbal ability subtests of the Illinois Test of Psycholinguistic Abilities, and performed slightly better on the Stanford-Binet. The authors conclude (p.9) that "the impact of the early day-care experience

was not overwhelming."

Additional data collected on the same groups of children after 8 months in the new center (Schwarz, Strickland & Krolick, 1974) substantiate these conclusions. The two groups did not differ on success at problem-solving, ability to consider abstract concepts, or planfulness.

One of the most comprehensive efforts to provide enriched day-care experience for disadvantaged children is the Milwaukee Project (Heber, Garber, Harrington, Hoffman & Falender, Note 17). Twenty black lower-class infants, whose mothers' IQ s were less than 75, were placed in full-time day-care from 3 months to 6 years of age. During the first 15 months, the teacher-child ratio was 1:1, and from about 18 months on, the ratio was 1:3. The program has a structured cognitive-language orientation. When compared to a control group of children from similar families, both groups scored a mean of about 115 on the Gesell Scales. By 1 year of age, the day-care children averaged an IQ of 120 on the Binet, while the controls had dropped to 95. At 5 1/2 years, the mean IQ for the day-care group was 124, and for the controls, 94.

Two recent studies by Ramey (Ramey & Mills, 1977; Ramey & Smith, 1977) also indicate that infant day care may prevent intellectual decline in lower-class children. In the Ramey and Mills study, infants considered at risk for mental retardation were divided into two groups. One group (N=25) began attending an educational full-time group day-care program between 6 and

12 weeks of age. The teacher-child ratio was approximately 1:3. A home-reared control group (N=22) was matched on sex, maternal IQ, and number of siblings. Children were tested at 7 and 18 months on a two-choice visual discrimination task and on the Bayley Mental Scales of Infant Development. Bayley scores did not differ at 7 months, but at 18 months the day-care group scored 16 points higher than the controls (102 versus 86). The day-care infants also took fewer trials to learn the discrimination task, especially at 18 months of age.

Ramey and Smith's subjects were drawn from the same population of high-risk infants. Fifteen were attending the group day-care program described above, and 15 were matched home-reared controls. A third group of 30 infants represented a stratified sample of the general population, and were of higher socioeconomic status. All infants ranged from 3 1/2 to 9 1/2 months, with a mean age of 6 1/2 months. Both the day-care high-risk group and the general population group scored significantly higher on the psychomotor portion of the Bayley Scales than did the home-reared high-risk infants.

Studies of Middle-Class Children

Keister (Note 18) compared 15 middle-class children enrolled full-time in a high-quality day-care program with home-reared controls matched on sex, race, age at entering the project, and less exactly on birth order, and parental age and education. The Bayley Scales and later the Stanford-Binet were administered at 3, 6, 9, 12, 18, 24, 30, 36, 42 and 48 months. Initially, the

two groups did not differ on the Bayley Mental Scales. By the last testing session, however, the center children scored significantly higher (mean difference = 3.7 points).

Cochran (Note 8), in a study described earlier, administered the Griffiths Mental Development Scale to his 120 middle-class subjects at 12, 15, and 18 months of age. No significant differences were found between the day-care, family-care and home-care groups.

The results of a study by Winett, Fuch and Moffatt (Note 19) are reported by Bronfenbrenner (Note 4). They studied 81 white, middle-class children, 3 to 5 1/2 years old, reared in one of four settings for at least 9 months: 1) all-day group care; 2) family day care (1 to 4 other children present; 3) half-day center or baby-sitter care; 4) maternal care. No differences were found on the Illinois Test of Psycholinguistic Abilities or the Peabody Picture Vocabulary Test. A preschool scale designed by the authors did differentiate among the groups. The scale reportedly measured "number and letter recognition, printing and counting abilities, short-term memory, and knowledge of simple addition and informational facts" (Bronfenbrenner, p.5). The highest scoring group was obtained by the half-day group-care children, followed in order by the maternal-care, full-time day-care and family-care groups.

In a study by Doyle (1975) described previously, 18-month-old middle-class day-care and home-reared children were compared. The center children, who had experienced 7 months of day care, received a significantly higher mean IQ on the Cattell Infant

Intelligence Scale than the home children (117 versus 109). Doyle and Somers (Note 9) administered both the Cattell Scale and a verbal language development scale to their three matched groups of middle-class 18-month olds, who either were home-reared or enrolled in group care or family day care. The tests, administered approximately 9 months after entry into day care, did not differentiate among the three groups. Mean IQ for all groups was 111, and language age averaged 2.25 years, indicating that the sample as a whole was advanced in overall intellectual and language development.

Macrae and Herbert-Jackson (1976) attempted to replicate portions of the study by Schwarz et al. (1974). Eight pairs of 2 year-olds were matched on age and sex, although not on race or social class. The sample appears to be of a higher social class than that of Schwarz et al. (The modal parental occupation of both groups in the sample was college student). One group had been in the center either half-or full-time for at least 13 months, whereas the second group had been in the center from 1 to 6 months. The teacher-child ratio for infants was 1:4 and for toddlers, 1:5. The early-entering group was significantly better at problem solving and planfulness than the late-entering group, contrary to the results of Schwarz et al. Differences in age, socioeconomic status, and type of program all are possible factors which could account for this discrepancy.

Kohen-Raz (1968) gave the Bayley Infant Scales to 130 kibbutz infants and 152 infants from private middle-class homes. The children ranged in age from 1 to 27 months. Kibbutz infants were

superior in mental development to home-reared infants through 6 months of age, and performed on the same level thereafter.

The final study to be considered in this section is the recent research of Kagan et al. (Note 11), mentioned earlier, which included both middle -and working-class children. Day-care and matched home-reared children were compared at various ages from 3 1/2 to 29 months on a variety of cognitive skills, including memory, language, perceptual analysis, and selected items from the Bayley Developmental Scale. Few differences in cognitive functioning were found. At 7 1/2 and 13 months there were no differences between the groups on the Bayley mental and motor items (Ricciuti, Note 3). At 20 months, there was no effect of rearing either on recognition vocabulary or the Bayley language items. The day-care group did perform better on the Bayley non-language items than the home-reared group. No differences due to type of care were found at 29 months on the three cognitive tests administered: memory for locations, concept formation index, and embedded figures. However, there was a significant interaction between care and ethnicity on the concept formation index. Working-class Chinese children in day care performed better than home-reared working-class Chinese children. Among white children, on the other hand, the home environment apparently was more facilitating, for home-reared children in both classes performed better than those in day care.

Long-Term Effects of Nonmaternal Care on Intellectual Development

Few studies have examined the long-term consequences on intel-

lectual development of early nonmaternal care. Fowler (1972) compared 30 advantaged and 9 disadvantaged infants in full day care ranging in age from 2 to 30 months with home-reared controls matched on age, sex, initial Bayley Scale scores, and years of parent education. Other family characteristics (e.g., occupation, number of siblings, parent age, marital status) were more crudely matched. Methods of cognitive stimulation were employed in the center and the teacher -child ratio often was 1:1. Advantaged children were assessed at 1 and 2 years of age, at which point the program was terminated. Disadvantaged children first were tested at 5 and 19 months of age. Advantaged children, despite their initially higher mean IQ level, made larger gains than did the disadvantaged children. Comparisons between first-year samples of advantaged children in day-care and their home-reared controls showed nonsignificant IQ gains favoring the day-care samples. Gains were larger for children who started the program early (2 to 13 months) or stayed in the program 8 months or more. Girls gained more than twice as much as boys (28 to 12 points), but they also started at initially lower levels. Boys in the total sample, however, made significant gains when they entered early and after a mean of 10 months in the program. According to Fowler, the higher mean mental score gains of advantaged girls compared with boys (if not due entirely to regression phenomena) may be due to exposing the parents to methods stressing the equal importance of autonomy, intellectual curiosity, and achievement for both sexes.

In order to assess long-term effects, Fowler and Khan (Note

20) tested some of the same children 2 and 3 years after completing the program, at 4 and 5 years of age. They found essentially no differences in Binet IQ at age 5 between 11 matched pairs of day-care and home-reared advantaged children. All converged around an IQ of 130. Disadvantaged children, however, declined between the end of the program and the second follow-up. Analysis of sex differences of advantaged day-care children revealed a continuing convergence of boys and girls at the final follow-up testing, with IQs approximately the same.

Moore (Note 14) is the only investigator to have examined the long-term effects of preschool nonmaternal care through adolescence. He found that home-rearing was associated with acceleration in reading at 7 years for boys and with the number entering and passing the "O" level examination at age 15 for girls. No other differences were obtained. Moore (Note 14, p.23) concluded that "changes in the more fundamental aspects of ability measured by the IQ were not found to be durably associated with regime."

Summary: Intellectual Development of Children in Nonmaternal Care

There is little evidence that the intellectual development of middle-class children is influenced greatly by nonmaternal care. While adverse effects generally have not been found, facilitative effects have tended to be minimal. The home environment of most middle-class children apparently provides sufficient stimulation for normal development. On the other hand, educationally oriented day-care programs often have been shown to prevent the decline in intellectual performance frequently found in home-reared children from lower-class families. Apparently, the home environments of the latter group of children often are not sufficiently supportive of normal intellectual development.

It should be noted that at least some programs designed to enhance intellectual performance in low-income children have employed excellent adult-child ratios of 1:1 or 1:2 (e.g., Robinson & Robinson, 1971; Heber et al., Note 17), which may in part be responsible for the facilitative effects of such programs.

Ricciuti (Note 3) suggests that entry into nonmaternal care prior to 1 1/2 years of age does not enhance intellectual development. He notes (p.21) that "in most instances, DQ or IQ differentials in favor of day-care children do not begin to emerge until around 18 to 22 months of age or later, even for children entering educationally oriented day-care programs before 5 or 6 months of age." However, one cannot rule out the possibility of a cumulative "sleeper" effect which begins early but does not manifest itself until the age of 18 months. Indeed, there is evidence that the period from 8 to 18 months may be a critical one in the development of intelligence (e.g., White & Watts, 1973).

Social, Emotional, and Other Characteristics

The studies reviewed below will be grouped into several categories: interactions with peers; interactions with adults (excluding attachment behaviors); social-emotional development; activity level; other behaviors (including curiosity, sex-role orientation, and achievement motivation); and physical health. When reporting results of investigations cited earlier, descriptions of subject and program characteristics will be repeated minimally, if at all, for the sake of brevity.

Interactions with Peers

Early vs. late entry into substitute care

Several studies have examined peer interactions as a function of age of entry into substitute care. A number of studies done at Syracuse University compared 3- and 4-year-olds who had been in group day care since the age of 9 months with a group of home-reared children. Both groups were studied when initially entering a new day-care facility and for some months afterwards. Schwarz, Krolick, and Strickland (1973) found that the early day-care group showed more social interaction than the late-entering group both on the first day at the new center and also 5 weeks later. Schwarz et al. (1974) reported that the early-entering group was rated by teachers as more physically and verbally aggressive with peers than the late-entering group 4 and 8 months after entering the center. The two groups did not, however, differ in the ability to get along with their peers. Lay and Meyer (Note 21), observing the same children at about the same time, found that in the Fall, the early entering group showed the highest level of negative actions toward peers. "By February, negative actions toward peers had declined markedly and sex differences were more prominant than experience differences, with males higher. With regard to positive actions toward peers, in the Fall there were no differences as a function of experience or sex. Positive actions increased steadily and by Spring, infant day-care graduates had the higher level of positive actions toward peers" (Schwarz, Note 2, p. 30).

Another study comparing early- and late-entering day-care children was carried out by Macrae and Herbert-Jackson (1976). Half of their 2-year-old subjects had been in day care for at least

13 months, and half, for 1 to 6 months. Unlike the findings of Schwarz, et al. (1974), the early-entering group showed greater ability to get along with peers than the late-entering group. The two groups did not differ in aggression, although the means were in the same direction as those reported by Schwarz et al. (1974).

One other study examining peer interactions as a function of age of entry into day care is that of Largman (1976). She compared 80 4-year-old white children enrolled in two day-care centers who had entered full-time group day care (either family or center care) at one of three ages: before 2 years of age, between 2 and 3, or between 3 and 4. Two-thirds of the earliest entering group had experienced family day care before enrollment in a day-care center. Of the middle-entry group, approximately 10 per cent had first been in family care and 40 per cent reared at home before entering a center. In the late-entry group, about one-third had first been placed in family care. No other comparisons of the characteristics of the three groups were given. Children entering group day care before the age of 2 were found to be more aggressive and had more difficulty in relating to peers than the later-entering groups. Children entering between the ages of 2 and 3 were the best adjusted in these respects, but not significantly more so than the late-entering children.

Home care vs. substitute care

A number of other studies have compared peer interactions of home-reared children with those who have been exposed to nonmaternal care. Moore (Note 14), in his longitudinal study of adolescents

who had experienced either home-rearing or substitute care before the age of 5 years (starting at a mean age of 2.6 years), reported that home-reared males were more timid with their peers, less aggressive, and more sensitive to social censure than were males who had been in substitute care. Few differences emerged for females as a function of type of care.

In the study by Doyle (1975), peer interactions of 18-month-old home-reared and day-care-center children varied little. Significant differences in play were found for only one of 37 variables. Home children initiated more social interactions (either positive or negative) than center children. In the second phase of this project, Doyle and Somers (Note 9) similarly found few differences in peer interaction among children who were either home-reared or enrolled in family care or a day-care center. At 18 months of age, home-reared children made more aggressive physical contacts and initiated more aggressive acts. They also made more friendly gestures and social contacts. Four to five months later, home children again aggressed more often than center or family children. The groups no longer differed in friendly actions toward other children. Home children spent more time than family children in play with one other child Center children spent more time than the other groups either playing alone or with two other children.

In the study by Kagan et al.(Note 11), children in infant day care since the age of 3 1/2 months were compared to home-reared controls at 20 and 29 months of age. At 20 months, home-reared children, as compared to day-care children, showed a greater inhi-

bition of play following the introduction of an unfamiliar peer and also looked more at the unfamiliar peer. By 29 months, these differences between the rearing groups had disappeared. Further, the day-care group was neither more aggressive nor more cooperative than the home-reared controls.

Similar findings were obtained by Finkelstein and Wilson (Note 22), who compared 2-year-olds in group day care (N=12) with children of the same age from the general population (9 home-reared, 3 in day care). The former group, which had started day care between 6 and 12 weeks of age, came from the same high-risk population studied by Ramey and his colleagues described earlier. Children from the two groups were paired and brought together with their customary daytime caretakers. The day-care and general population children did not differ in their interactions with peers.

Along the same lines, Wright (1975) found no differences in peer interaction among 28 white Canadian 3- and 4-year-olds belonging to one of three groups: 1) high-income group in half-day preschool; 2) low-income group in half-fay preschool; and 3) low-income group in full-day care.

Lippman and Grote (Note 5) measured cooperation and sharing behaviors in their sample of 198 4-year-olds who were either in group day care, family day care or full parental care. Pairs of children from the same care background played two games together. One game required the two children to cooperate by taking turns in order to win a prize. No differences in cooperative behavior were found as a function of care group. To measure helping and sharing behavior, one child had to spontaneously help another

open a box in order to remove a surprise. After the box was opened, the child who had been helped was asked what to do with the package of gum found inside. No differences among care groups were found in helping behavior (as indicated by the amount of time taken to open the box and by the amount of goal-directed conversation between the pair) or in sharing behavior.

On the series of stories in which the child was asked which individuals he or she would like to be present in a variety of situations, Lippman and Grote found no relationship between care experience and giving a peer choice. Fewer center children mentioned a non-day-care child than did children in the other rearing groups.

Interactions with Adults (Excluding Attachment Behaviors)

Early vs. late entry into substitute care

In the study by Schwarz et al. (1974), comparing graduates of infant day care who entered a new center with children first entering day care, the early day-care children were rated as less cooperative with adults and more physically and verbally aggressive with adults after 4 and 8 months in the new center than were late-entering children. Lay and Meyer (Note 21), observing the same children, found no differences between early-and late-entering children in frequency of verbal, gestural or tactile interaction with adults.

Macrae and Herbert-Jackson (1976), in their study of 2-year-olds who had entered day care either early or late, found that early-entering children were slightly, although not significantly, more cooperative with adults than were late-entering children,

In Cochran's (Note 8) study of 12- to 18-month-olds, interactions between adults and children occurred with greater frequency and duration in homes and family day-care homes than in day-care centers. In particular, reading, labeling, and face-to-face verbalizing occurred more often in the two home settings.

On the other hand, Wright (1975) found no differences between her preschool and day-care groups in the following behavior categories: 1) gaining the attention of an adult; 2) using an adult as a resource; and 3) expressing affection and hostility to an adult.

Finkelstein and Wilson (Note 22), in their comparison of high-risk day-care and general population 2-year-olds, found that day-care children were more likely to be in proximity to and interact with an unfamiliar adult than were general population children. The latter children were more likely to stay near their caretaker and interact with her than were the day-care children.

Social-Emotional Development

Schwarz et al. (1973) compared the social and emotional responses of day-care children who had just entered a new center with home-reared controls entering the same center. The early day-care group showed more positive affective response upon arrival and tended to stay happier than the new day-care children through the fifth week. The early group exhibited a significantly higher level of peer interaction than the new children and tended to be less tense. The authors concluded that there was no evidence

contrary to the findings of Schwarz et al. (1974). As noted earlier, a number of differences between these two studies make it difficult to account for the failure to replicate.

Consistent with the findings of Schwarz et al. (1974) are data reported by Largman (1976) in her study of 4-year-olds who entered group care below age 2 years, between 2 and 3 years or between 3 and 4 years. She reported that children entering below the age of 2 more often sought physical contact with adults, yet also expressed more open defiance, than children entering group care at later ages.

An indirectly related finding by Raph, Thomas, Chess and Korn (1968) of 97 middle-class first graders found that negative interactions with teachers was positively correlated with amount of previous group experience in nursery school and kindergarten. However, negative interactions with peers was not influenced by number of years of group experience.

Home care vs substitute care

Moore (Note 14), in his longitudinal study of children who were either home-reared or placed in substitute care at an average age of 2 1/2 years old, reported that substitute care males up to age 7 showed more "fearless aggressive, noncormity" than home-reared males. This included numerous differences of opinion with parents. At age 15, the substitute care boys continued to differ more with their parents, and were more likely to ignore punishment. Again, few differences between females as a function of type of care were found.

for the proposition that infant day care produces emotional insecurity.

Fowler (1972), in his study of advantaged and disadvantaged children in day care, measured social-emotional development by means of the Bayley Infant Behavior Record and the Schaefer and Aaronson Infant Behavior Inventory. He reported that the day-care children fell within the normal range, although no comparisons with comparable home-reared children were made. Girls showed greater gains on these measures over time than did boys. Fowler and Khan (Note 20), in their follow-up of these children 2 to 3 years after termination of the program, found that in the advantaged group, both day-care and home-reared children showed a continuing high mean level on nearly all social-emotional ratings, with little consistent difference among the groups. (The disadvantaged sample was too small to make meaningful comparisons).

In Fowler's (Note 15) study of working class day-care and home-reared children, the same instruments were used to assess social-emotional development. The two groups did not differ on these measures either during initial testing at age 11 months or at age 25 months. During the mental testing situation, the children also were rated on socioemotional and motivational behaviors. The direction of change was from a slight initial advantage for home-reared children to a slight advantage for the day-care children.

Keister (Note 18), in comparing day-care and home-reared middle-class children at intervals from 3 to 48 months on the Preschool Attainment Record (PAR) and Vineland Social Maturity Scale, found results similar to those of Fowler (Note 15). Initially, no differ-

ences due to rearing condition were found. On the last testing session, however, the center children scored significantly higher on the PAR than the home children.

Lippman and Grote (Note 5) reported that their 4-year-old subjects in day-care centers, family day care or full parental care did not differ either in emotional disturbance (as measured by human figure drawings), or self-concept (assessed by self-drawings and self-ratings).

Rabin (1965) compared kibbutz and non-kibbutz individuals at several ages: 1, 10, 17 and 19-20 years old. He reported the non-kibbutz infants to be superior to kibbutz infants on the Vineland Social Maturity Scale. However, this trend was reversed at 10 years (as measured by Blacky, Draw-A-Person, Sentence Completion, and Rorschach tests). The two groups were found to be equally well-adjusted at ages 17 and 19-20, as assessed by the TAT and Sentence Completion Test.

Lippman and Grote (Note 5) employed several measures of impulse control. Care experience was found to be related to delay of gratification, particularly among males. Nearly half of the family day-care boys chose to delay gratification as compared to nearly a third of home-reared boys but only 18% of the group-day-care boys. Two tasks were employed to measure motor response rate, another aspect of impulse control. Both tasks involved the child's ability to respond slowly when instructed to do so. No relationship with care experience was found for either task.

Activity Level

Schwarz et al. (1974) found that 4-year-olds who had spent

a minimum of 2 years in day care were more motorically active than children who had spent 4 or 8 months in day care. Lay and Meyer (Note 21), observing these children over an 8-month period, found that after 4 months in a new center, males from both groups spent more time than females in the active area. In this area, designed to encourage large muscle activity, activities such as running, shouting, and teasing were acceptable. Four months later, both male and female early-entering day-care children spent more time in the active area, and less time in the expressive area (containing art media and domestic toys) and in the cognitive task-oriented area than did late-entering day-care children.

Macrae and Herbert-Jackson (1976) also found a tendency (although not significant), for 2-year-olds who entered day-care early to be more motorically active than 2-year-olds who had entered day care at a later age. Moore (Note 14) found that boys who experienced substitute care before the age of 5 were more active at age 7 and liked rough sports more at age 15, than did boys who were home-reared before the age of 5.

Other Behaviors

Lippman and Grote (Note 5) examined curiosity, sex-role orientation, and achievement orientation in their study of 4-year-olds who were in group day care, family day care or full parental care.

A composite curiosity score was based on approach, question-asking, novelty of a toy box selected, and percentage of novel toys selected for play. The mean curiosity score was highest for the family day-care group and lowest for the home-reared children. Approach ratings and question-asking discriminated most among the

groups. For girls, no relationship was obtained between care experience and hesitancy of behavior, but for boys, both day-care groups showed less hesitancy than the home-reared group. Family day-care children asked the most questions, and day-care children, the least. Number of years in day care was not related to the curiosity measures.

One measure of sex-role orientation involved toy preference. Care group differences in degree of sex-role stereotyping were found among girls, but not boys. The fewest strongly sex-typed girls were from the two-parent home-reared group. Each child also was asked what he or she would like to do when grown up. The percentage of children giving an occupation as a first choice was highest in the family day-care group and lowest in the group day-care group. Girls in day care were as career-oriented as home-reared girls. No relationship was found between care experience and rated masculinity-femininity of occupational choices.

A bean-bag game was used to measure achievement motivation on a physical task, while a memory game was used to measure motivation on a cognitively oriented task. On both tasks, home-reared children tended to overestimate their abilities on the first try more than day-care children. This difference disappeared after the first trial. Overall, the proportion of children choosing a challenging but realistic level of task difficulty was similar for all care groups.

Health

Doyle (1975) notes that many professionals believe that the

very young child in day care will experience an increase in the incidence of various types of illness. Based on phone calls to mothers, Keister (Note 18) reported a greater incidence of illness symptoms in day-care children, particularly colds, running nose, and diaper rash. Loda (1972) compared the incidence of respiratory disease of children in the Frank Porter Graham Center in Chapel Hill with that of middle-class home-reared children. He reported a slight excess of respiratory illness in children under one year of age in group day care, but after one year, the rates for day-care and home-reared children were very similar.

Doyle (1975), in her study of 18-month-old day-care and home-reared children, telephoned families over a 2-month period. Out of 8 illness categories, 5 occurred frequently enough to analyze. Both total illness symptoms and flu were more frequent in center children than home children. In the second phase of this project (Doyle & Somers, Note 9), day-care center children were found to be more frequently ill than children in family day care or those reared at home, for 4 out of 5 categories. For three of these categories (flu, cold, and total illness), there was an interaction between age of child and type of care. Colds and total illness were more frequently reported in center children only at 13 months of age, but not at 22 or 32 months. Flu symptoms were more common in center children than in family care or home children at ages 13 and 22 months, but there were no differences at 32 months. This finding of a greater incidence of minor illness in day-care infants, even under conditions of good hygiene, is consistent with the results of Doyle, (1975), Keister

(Note 18) and Loda (1972).

Summary: Social, Emotional and Other Characteristics

Few differences in peer interactions are found when comparing day-care and home-reared children. However, early entry into day care (before the age of 2 years) seems to be associated with an enhanced tendency to interact with peers in both positive and negative ways. This may be related to the finding that activity level is generally higher among early-entering children. Early entry into day care may also decrease positive, cooperative behaviors toward adults, but this finding has not been obtained consistently.

Overall emotional adjustment of children who have experienced nonmaternal care appears to be as favorable as that of home-reared children, although the incidence of minor physical illnesses appears somewhat greater in day-care children during the first year of life.

General Summary: Effects of Nonmaternal Care

Others who have examined portions of the literature reviewed here (e.g., Schwarz, Note 2; Ricciuti, Note 3; Bronfenbrenner, Note 4) agree with the present author that conclusions regarding the effects of nonmaternal care on young children must be considered as tentative, given the often-limited nature of the available evidence. For one thing, children in various care arrangements often differ in family background. For another, many of the studies have focused on children in high-quality day-care settings. In addition, long-term followups of children who have experienced nonmaternal care rarely have been carried out. Fur-

thermore, problems exist in interpreting the meaning of various behavioral outcomes associated with different child-care arrangements. Finally, variables which mediate the effects of nonmaternal care seldom have been studied systematically. These include the sex of the child, socioeconomic status, ethnic and racial background, intactness of family, home environment, and various parameters of the nonmaternal care experience (e.g., caretaker/child ratio, continuity of caretakers, age of onset, duration).

Despite these shortcomings in the research literature, it seems reasonable to conclude from the available data that high-quality nonmaternal care does not appear to have harmful effects on the preschool child's maternal attachment, intellectual development, or social-emotional behavior. Children experiencing substitute care and those reared exclusively at home show highly similar patterns of attachment behavior directed toward their mothers. Formation of an attachment to a substitute caretaker appears to parallel the development of attachment to the mother. Nevertheless, children direct more attachment behaviors toward their mothers than toward their substitute caretakers. Males' attachment behaviors may be more affected than that of females by variations in caretaking arrangements.

Nonmaternal care has little impact on the intellectual development of middle-class children. Adverse effects generally have not been found and facilitative effects have tended to be minimal. On the other hand, educationally oriented day-care programs often have been found to prevent the decline in intellec-

tual performance frequently found in lower-class home-reared children.

Day-care and home-reared children show similar patterns of interaction with peers. However, early entry into day care (before the age of 2 years) seems to be associated with an enhanced tendency to interact with peers in both positive and negative ways. The higher activity level which characterizes early-entering children may contribute toward this behavior pattern. Early entry into day care may also decrease positive, cooperative behaviors toward adults, but this is not a consistent finding.

While the incidence of minor physical illnesses is somewhat greater in day-care children than in home-reared children during the first year of life, the overall emotional adjustment of children who have experienced high-quality nonmaternal care appears to be as favorable as that of children in home care.

II. NONMATERNAL CARE: POPULAR VIEWS

Most working parents of preschool children presumably are deeply concerned with the issue of whether a mother can go to work without adversely affecting her child's development. How old should the child be before mother returns to work? How many hours a day can a preschooler comfortably be separated from his or her parents? What kind of substitute child-care arrangement is best? Few parents seek the answers to these questions in the professional literature reviewed above. Most rely heavily on the advice offered by child-care experts in popular books and magazine articles. The second purpose of this paper, then, is to examine the manner in which the issue of nonmaternal care for

children has been handled by the popular press.

For this purpose, books on child care and leading women's magazines published over a 20-year period (1956-1976) were searched for relevant material. The sample of child-care books consisted of those available in the public and university libraries and the bookstores of a medium-sized midwestern city. In addition, all issues of seven leading women's magazines over the 2-year period were examined for nonfiction articles dealing with nonmaternal care. These magazines (in order of decreasing circulation) were: McCall's, Ladies Home Journal, Good Housekeeping, Redbook, Cosmopolitan, Parents Magazine, and Mademoiselle. The years 1956-1976 were chosen in order to determine whether advice to parents changed during a period of time marked by a sharp increase in maternal employment (U.S. Bureau of the Census, 1975) as well as by a rise in feminism.

The author classified articles and books in three broad categories based on their evaluation of nonmaternal child care as being either harmful ("negative"), beneficial or unharmful ("positive") or a combination of the two ("mixed") (see Table 1). An attempt to categorize statements regarding the effects of nonmaternal care on specific areas of child behavior, as was done for the professional literature, proved fruitless. Most of the books and articles made global statements about the effects of such care without specifying its impact on a particular aspect of development.

Little material appeared on the topic of nonmaternal care and working mothers in the magazines and child-care books of the 1950s. Attention to this area was found to increase considerably in the

1960s and 1970s (See Table 1). It is worth noting that of the seven women's magazines surveyed, only three--Ladies Home Journal, Redbook, and Parents--have shown a sustained interest in the issue of nonmaternal care. These three magazines accounted for 28 of the 31 articles appearing on this topic in the seven periodicals.[1]

A major trend discernible both in the magazine articles and child-care books is a shift between the 1960s and 1970s in the direction of a more favorable attitude toward working mothers and nonmaternal care. In order to make this trend more apparent, the popular literature of the late 1950s and 1960s will be discussed separately from that of the 1970s.

The Fifties and Sixties

Negative Books and Magazine Articles

Many child-care specialists have promototed the idea that children under a certain age (usually 3 years old), need the almost continual presence of mother, and that maternal employment before this age therefore is harmful to the child's development. Witness the advice contained in the two child-care books which have sold the most copies over the years -- Spock's Baby and Child Care (1946, 1967a; 1976) and the government pamphlet on Infant Care (U.S. Children's Bureau, 1963; 1973) (See Bane, 1973). The topic of working mothers was discussed under the section on "special problems" in each of these books until their respective revisions in the 1970s. For 30 years, Spock declared that children of working mothers sometimes grow up neglected and maladjusted. (By implication, this happened less frequently to children of nonworking mothers.) The mother, he declared, is the

best person to give the child steady, loving care in the first years. Unless she absolutely must work, it makes no sense for her to pay others to do a poorer job of rearing her children. In the event that the mother works, Spock cautions that the child under 3 requires individualized care in a family setting and does not belong in group day care.

Infant Care (U.S. Children's Bureau, 1963) offers similar advice, emphasizing both the joys of rearing one's own children and the problems of working: Good child care is expensive and hard to find; the mother may resent the child's fondness for the caretaker; and she may become "worn out and ineffective in every sphere of life" (p.64). Group care is considered undesirable for the child under 3. Identical sentiments are echoed by Goodrich (1968) in his book on infant care.

Turning to other child care books of the 1950s and 1960s, one finds an almost unbroken litany of statements unfavorable to maternal employment and nonmaternal care, especially during the first 3 years of the child's life. Glover (1962), Kugelmass (1965) and Piers (1966) all claim that no one can take the mother's place during these first 3 years. Kugelmass further asserts that the worst natural mother is better than the best substitute caretaker! Miller (1968) is at least as vehement in his objection to working mothers. Mothers who seek employment are rejecting maternal and marital responsibilities, he says. A mother who leaves her infant to work will cause "definite injury both to him and to herself" (p.21). Ribble (1965) is more specific about the

kinds of damage produced by maternal involvement in professional, artistic or social pursuits. Babies of such women may show retardation in speech or locomotion, or develop eating and sleeping problems, hyperactivity, or an exaggerated tendency to autocratic practices. She warns that babies cared for by many people do not develop strong emotional ties. Ribble also says that breast-fed babies have more trust and confidence in mother and that breast-feeding is the essence of mothering. Kehm and Mini (1968) state that working before the child is 18 months old is traumatic because the youngster is not sure that mother will return. They insist that the great majority of women working would really prefer to stay home and take care of their children. Brazelton (1969) claims that two mothers are not as good as one in the first years, and urges mothers to delay their return to work. His hypothetical working mother is plagued by guilt and is overly permissive with her child.

It is not only the child-care books of this period which express disapproval of nonmaternal care in the early years. A number of articles in the women's magazines are equally negative. One article in a 1959 issue of Parents' Magazine claims that scientists and parents agree that children under 3 need mother (Javits, 1959), while another states that full-time work may damage the mother's health as well as disturb her young children (Johnson, 1959). Senn, in a 1962 McCall's article, insists that children are not prepared for separation from mother until at least 3 years of age. When mother does return to work, the child

frequently feels rejected. Mother's staying at home is considered better for the child's physical and emotional health. A 1969 Redbook article labels working mothers "part-time mothers." Maternal employment is treated as a "social ill" which is bad for children (Bernstein, 1969).

Spock, writing in Redbook in 1967 and 1969, asserts that women were made to be concerned primarily with the care of child, husband, and home. He cautions mothers to be home for two-thirds of the child's waking hours until the age of 3, and for half of the child's waking hours until the age of 6.

A more subtle but still negative approach to nonmaternal care is the happy homemaker's personal account of her reasons for not working. Such statements appear in two issues of Parents in the 1960s (Sephton, 1967; Seton, 1964), as well as in a humorous book by Bahr (1968). Reasons given for not working include the difficulty and expense of finding good caretakers and the desire to spend more time with the children.

Mixed Books and Magazine Articles

Only a few voices were raised in even limited support of working mothers in the late 1950s and 1960s. The most cautious of these (classified as "mixed") endorse part-time employment as the ideal solution for the mother who wants to work (Cotton 1965; Olds, 1968; Postelle, 1968). Another "mixed" view of nonmaternal care is the argument that good day-care programs should be established for mothers who must work (Javits, 1959; Oettinger, 1965). The implication is that day care runs a poor second to maternal care but is better than haphazard care or none at all.

Positive Books and Magazine Articles

Only one child-care book of the sixties presents a very sympathetic view of working mothers and nonmaternal care. Gruenberg (1968) notes that many women do not have to work, but feel that a job makes for a fuller life and enables them to be better wives and mothers. For those who work full-time, she notes, the hours spent with the children can be rich and happy ones, giving more satisfaction to the children than many more hours with a tense, dissatisfied mother who has given up a job "for the children's sake." If the mother has managed her household situation well, and does not feel guilty about working, the child is less apt to feel deprived or resentful. Individual substitute care is recommended for infants and toddlers, while day-care centers are considered appropriate for older preschoolers. Gruenberg offers advice on how to keep the home running smoothly when mother works. Careful planning and family cooperation are deemed essential, and it is recognized that the plan which works best depends on the personality of the family. Even the youngest child can find satisfaction in performing tasks which contribute to the running of the home. Gruenberg concludes that "In a family where the mother works, the task of meeting the fundamental needs of every member, including her own, takes understanding, forethought and a spirit of working together. Many families are doing it successfully." (1968, p.599).

The women's magazines of the late fifties and sixties also occasionally portray the working mother in a favorable light. A

Mademoiselle article (Reyher, 1959) describes four happy families in which the mother works. Two Ladies Home Journal articles (Benjamin, 1966; Bettelheim, 1968) urge the employed mother to refrain from feeling guilty and indulging her child's every whim. Children of working mothers grow up into healthy people, we are told. In fact, it is better for the child not to be with mother all the time, especially if she resents staying at home. (The latter point is conceded even by Spock, 1946, and Infant Care, U.S. Children's Bureau, 1963.) Positive views regarding day care are expressed in an article in Parents (Oettinger, 1967) and in a series of articles in Ladies Home Journal. Oettinger argues that day care is needed to provide stimulation for all children, not just for those of poor or working mothers. This is an interesting reversal of her earlier position that day care is needed for mothers who must work (Oettinger, 1965). The Ladies Home Journal campaign of 1968 promoting day care as a "new family birthright" sounded a major positive note for day care in the popular literature of the sixties. The series of six articles emphasizes that good day care is not just for the children of employed mothers but for the children of every mother who wants to do civic work, continue her education, or devote herself to her younger children without neglecting her older ones (Robbins & Robbins, 1966). Even devoted nonemployed mothers, it is noted, can be overburdened and able to supply only some of the experiences that should be available to all children (Benjamin & Henley, 1966). Babysitters are given rather short shrift; many are described as indifferent, ignorant or overburdened. However, both group and family day-care exper-

iences are described in a favorable light (Painter, 1966; Robbins & Robbins, 1966). One article is devoted to the excellent day-care programs in Scandanavia (Kobler, 1966); and another to the efforts of one woman to organize day-care programs in Maryland (Gibson, 1966). The final article (Bagdikian, 1966) describes the difficulties of passing day-care legislation in this country; it includes a section on how to lobby for better day care.

The Seventies

Negative Books and Magazine Articles

While few negative comments about nonmaternal care for preschoolers appear in the women's magazines of this decade, a number of child-care books still carry dire warnings about the harmful effects of such care. Spock, in two Redbook articles of 1970, continues to espouse his earlier position. He warns that if a child develops dependence on a substitute and if she leaves, the effect is the same as if the mother had died. If repeatedly left by a succession of caretakers, the child may become incapable of loving others in the future. Once again, he claims that it is best if mother works only two or three half-days when the child is less than 3 years old (Spock, 1970a). He goes on to say (Spock, 1970b) that even the best day-care centers for children under 3 "have not yet proved themselves and are generally unavailable" (p.31). Even high-quality programs with adequate attendants might produce average children, at best. He repeats essentially the same message in his 1974 book Raising Children in a Difficult Time and adds that the government should pay

parents of preschoolers to stay at home in order to prevent "the serious neglect of some children which is the main cause of character defects" (p.237). The implication clearly is that the sheer physical presence of parents ensures normal development.

The 1973 revision of Infant Care contains basically the same message as the earlier version, although the topic of working mothers is no longer indexed as a special problem. Many mothers will want to wait until the child is more than 3 months old before returning to full-time work, it is claimed. The expense of working and the joys of child care are stressed. Most day-care centers are said to be very bad.

Some writers are appalled at the very idea of employment for mothers of preschoolers. Anthony and Benedik (1970) assert that longing for a career indicates masculinity, incapacitates a woman for motherhood, and precludes her enjoyment of her infant. Salk (1974) claims that turning the child over to others for rearing is irresponsible. He disagrees vehemently with the idea that the child will benefit from having a happy working parent. One parent should not work for the first 9 to 10 months of the child's life. If both work, one should be home for 2 to 3 hours in the middle of the day, if the child is under 3. In a similar vein, Robertiello (1975) stresses the child's need for a very close consistent relationship with mother during the first year or two of life. Any separation, however brief, is extremely traumatic to the child. Weisberger (1975) echoes this sentiment, stating that the child under 18

months of age can tolerate separation only for an afternoon or an evening at a time. Women who want to combine a career and motherhood are urged to wait until their children are at least 3 years old, so that the children can get the "emotional base they need for healthy development" (p.121). Waiting until they are 6 or older is considered even better, a position also taken by Olshaker (1971). White (1975) recommends that the mother stay home at least part of the day when her child is 8-14 months old. If mother works full-time during the period, she has less to do with the child's social learning process, claims White, and he questions whether the child can profit as much from interacting with a substitute caretaker. He concludes that the family is likely to do a better job than any day-care center. The only way to get a better set of early experiences is in a family day-care home run by a woman who has done an unusually good job with her own children. While White does not favor full-time day care for children under 3, a stance also taken by Dodson (1971), he feels that part-time day care may be better than none.

A more negative view of day care is presented by Radl (1973), who asserts that any woman who would place her child in day care for 10 hours a day should consider her motives for wanting a child. Citing studies" that find probable psychological damage to the children" in day care (p.219), she states that day care is no substitute for the care of loving parents in the early years. Brazelton (1974a) puts forth a novel but insidious argument against nonmaternal care. He claims that separation from parents affects the child adversely in unobservable ways that

cannot be measured. Brazelton leaves the reader with the scarcely consoling thought that if the day-care center provides a warm nurturing environment, it can compensate for much of this damage. As in his earlier book, he presents extreme hypothetical examples of harried, too-busy working parents whose children suffer alternately from parental neglect and guilt feelings. Excerpts from this book appear in two Redbook articles (Brazelton, 1974b; 1975).

Mixed Books and Magazine Articles

A number of writers in the 1970s have mixed feelings about working mothers and nonmaternal care. Callahan (1971) says that early in life, an almost exclusive mothering relationship is best suited to produce a child with highly developed emotions and cognitive skills. On the other hand, she concedes that if high-quality, stable substitute mothering is available, many women "find that combining work and motherhood makes them better at both" (p.46). Cana (1972) lists both advantages and disadvantages of maternal employment. Working is desirable if the child is older than 1 1/2 years and still clingy, or if the child's mother is punitive, resentful of the child's dependency, or anxious about child rearing. Working mothers may enjoy their children more and become more stimulating, while the children learn independence and responsibility. Working is not a good idea, however, if the child feels frightened or neglected, if the mother substitute is irresponsible, or if the mother becomes overtired or excessively attentive because of guilt feelings. Furthermore, male children may have some difficulty in masculine

identification, unless the father assumes a dominant role.

Salk (1972) warns that some babies cared for by others from the start fail to form a close tie with the mother. At the same time, he reassures parents that the child will not be harmed if left with a responsible person who will care for the child's emotional, physical, and stimulational needs. Levine and Seligman (1973) advise mothers not to work until their children are at least of nursery school age and to work only part-time even then. They go on to say, however, that even if the mother works full-time, she can have a satisfying relationship with the child. A good sitter or well-run day-care center is recommended as an excellent solution to the problem of substitute care. Somewhat more cautiously, Becker and Becker (1974) state that the two major responsibilities of working parents are providing adequate substitute care for their children and maintaining strong affectional ties with them. They do not, however, see day care as a reasonable substitute care option until the child is 3 or 4 years old. Church (1973) warns that the roles of worker and mother conflict. He further implies that the young child may become more attached to the caretaker than to mother. Part-time work is recommended during the child's early years. Although noting that babies can thrive in the best day-care centers, he cautions that many centers are not ideal.

Positive Books and Magazine Articles

While it is apparent that many popular writers continue to hold skeptical views about the effects of nonmaternal care and mothers working, an increasing number of favorable opinions about

these matters has been expressed in recent years. Two articles by Bettelheim in Ladies Home Journal (1971a,b) reassure mothers that they need not feel guilty if they desire to work outside the home. Spending every hour with the child is not proof of love, he asserts. In fact, too intense a mother-child relationship can be harmful, a point also stressed in a number of recent books (Biller & Meredith, 1974; Callahan, 1974; Levison & Silverstein, 1974; McBride, 1973). A woman who receives adult stimulation outside the home will find her children more stimulating, continues Bettelheim. The working mother who spends a few hours of enjoyed companionship with her children can be a better mother than the housewife who may not make the effort to do so because she is always there. The same position also is endorsed by several writers of current child-care books (Biller & Meredith, 1974; Gardner, 1973; Pomeranz & Schultz, 1973; Schwartz, Schifter, & Gillotti, 1972). Gardner (1975) reiterates this point in a recent article in Parents' Magazine.

Bettelheim (1970,a,b) further states that child care outside the home need not be inferior to maternal care in the home. In fact, he feels that it is better for mother and for children of all ages if the child spends at least part of the day in a good child-care institution. A number of other magazine articles similarly emphasize the importance of good day care for all children, not just those of working mothers (Barber & Skaggs, 1976; Carro, 1976; Legge, 1972; Lubka, 1971; Pogrebin, 1971; Reid, 1972; Wessel, 1970). Reid (1972), in challenging Nixon's veto of the

1971 Comprehensive Child Development Bill, notes the importance of cognitive development in the early years. He sees good day care as a means of providing early educational opportunities for preschoolers. Carro (1976) describes the study by Kagan et al. (Note 11) which indicates that day-care and home-reared children develop equally well and are equally attached to mother. Even Salk (1972), who has mixed feelings about nonmaternal care, enumerates some of the benefits of day-care centers. He notes that in addition to providing social stimulation, group play, and learning activities, centers are good for children with overprotective mothers who inhibit the child's curiosity.

One of the most significant developments of the current decade is the 1976 revision of that most popular of child-care books -- Spock's Baby and Child Care. Two major changes appear in this revision. First, Spock adopts a more positive attitude toward working mothers and second, he emphasizes the role of father as a parent. The topic of working mothers no longer is listed under the section on "special problems." Acknowledging his earlier prejudices, he now states that both parents have equal responsibility for child care and for outside careers. Outside work may actually improve parents by removing them from their children for several hours a day. If the mother can resolve her guilt and doubt, her children will not only accept but be proud of her working. Nevertheless, Spock reinforcers these doubts by continuing to state that the best caretakers in the first 3 years are the parents. Group care still is not considered a good alternative

form of substitute care until the child is at least 3 years old.

The increased emphasis on the father as caretaker is not unique to Spock, as can be seen by the appearance of a number of books devoted to fathering (e.g., Father Power by Biller & Meredith, 1974; How to Father by Dodson, 1974). One of the benefits of a mother's working, according both to Biller and Meredith (1974) and to Schwartz (1972) is that the father has the opportunity to become more involved with his children.

A similar viewpoint is expressed in a Redbook article, (McPharlin, 1976) describing one woman's return to school after quitting her job to be a full-time mother. One of the advantages she lists is the greater participation of her husband in child care. Salk, in his 1974 book, states likewise that fathers should devote substantial time to childrearing. Barber and Skaggs (1976) in a recent Redbook article take an even stronger stand, resembling that of Spock (1976). They assert that fathers have childrearing obligations as pressing as those of mothers.

Some writers, however, appear merely to pay lip service to the father's role as caretaker of his young children. Dodson, in How to Father, still acknowledges that child care in the early years is the primary responsibility of the mother. Robertiello (1975) asserts that he strongly favors equal involvement of fathers and mothers in raising children, yet he concedes that he geared the writing of his book to the "reality of the vast majority of families in which after all the mother plays the dominant role in child rearing" (p.31).

Despite the current trend toward increasing acceptance of nonmaternal care, few writers offer more to the working mother than general assurances that she is not harming her child's development. Little practical advice is given on how to combine effectively the roles of mother and worker. A notable exception is Curtis' (1976) book Working Mothers, based on interviews with mothers who discuss their feelings about working and describe their attempts to solve the problems faced by working mothers. Many of these women said that going to work after childbirth was harder on them than on their babies. All felt,however, that their children had developed strong relations with them and none felt replaced by a surrogate. These mothers, on the whole, made an effort to give their children considerable attention when they were home, and they did not believe that their children felt neglected. Mothers stressed the importance of adhering to a consistent routine, so that the children could expect the parents to be present at certain times each day. While these mothers did not deny feeling tired at times, they stated that they did not tire of their children. It was generally agreed that the demands and responsibilities placed on children of working women could be absorbed profitably. In spite of the almost universal advice of child-care experts that the child requires mother's presence until approximately the third year, those mothers who had always worked reported that their children took their working for granted and showed no resentment. Children whose mothers later returned to work some-

times did experience initial trauma. However, the consensus of those interviewed was that if the parents felt confident about the mother's working, the children adjusted to the situation. Curtis raises an interesting question. How, she asks, can Spock concede that the children of employed working-class women usually turn out well, and at the same time (at least prior to 1976) urge middle-class women to stay at home, lest they harm their children? She concludes that attitudes toward the working mother are of critical importance, and states that employed working-class mothers are more likely than employed middle-class mothers to have the sympathy and support of their families, friends, and professionals.

Favorable attitudes toward maternal employment presumably facilitate the mother's own acceptance of her working. In this context, it is important to note that mothers with positive attitudes toward work are likely to have better-adjusted children than are mothers with less favorable attitudes (Hoffman, 1963; Woods, 1972; Yarrow, 1961; Yarrow, Scott, deLeeuw & Heinig, 1962). Paradoxically, then, the years of dire pronouncements from the child-rearing experts which have instilled guilt into working mothers may have contributed toward a self-fulfilling prophecy.

CONCLUSION

It appears that until recently, the popular press has tended to perpetuate the belief that nonmaternal care is harmful to young children. This view, which still can be found in some popular writings of the 1970s, has persisted despite evidence

from research studies that under optimal conditions, nonmaternal care does not appear to have adverse effects on development. The discrepancy between the two bodies of literature may reflect a time lag in the assimilation of research findings by popular writers. This explanation is supported by indications that the degree of incongruence between the popular and professional literatures has lessened in the present decade. It may also be that the attacks on day care in the popular press are focusing on day care as it typically exists, whereas research on nonmaternal care has dealt largely with high-quality day care.

It should be stressed that studies of the effects of nonmaternal care have often been less than adequate, for reasons described earlier. For this reason, and because of the difficulty of proving the null hypothesis, the absence of demonstrated consistent effects in the studies done so far does not warrant the sweeping conclusion that nonmaternal care is not harmful to young children. The evidence does permit the conclusion that high-quality nonmaternal care has not been found to have negative effects on the development of preschool children. Further study of the variables which mediate the specific effects of various care arrangements clearly is called for. As Schwarz (Note 2, p.36) has stated, "The task ahead is that of refining our knowledge so that day care may be designed and utilized in a manner which will eliminate undesirable effects for all children."

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Footnotes

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[1] Interestingly, Ladies Home Journal is the only one of the three magazines focusing on nonmaternal care to have maintained a consistently positive attitude. Redbook, until recently, has adopted a negative stance, whereas Parents has presented mixed views over the years.

Table 1

Evaluations of Popular Child-Care Books and Magazines on the Topic of Nonmaternal Care

	Evaluative Category		
Years	Negative	Positive	Mixed
1956-1959a			
Books	1	0	0
Magazines	1	1	1
Subtotal	2	1	1
1960-1969			
Books	10	1	2
Magazines	6	9	3
Subtotal	16	10	5
1970-1976			
Books	10	8	8
Magazines	4	11	0
Subtotal	14	19	8
Total	32	30	14

a Also includes Spock's Baby and Child Care (1946)